In the Claims:

Please cancel claims 19-41 without prejudice or disclaimer.

Please add the following new claims:

--42. (New)   A mark detecting method of sequentially detecting a plurality of areas to be detected on a substrate by using a detecting device having a predetermined detecting field, said method comprising steps of:

a determining step of determining an order for positioning each of the areas to be detected into the predetermined detecting field by using at least one of an operations-research technique and an evolutionary computation method; and

a movement step of moving the substrate so as to sequentially position each of the areas to be detected into the predetermined detecting field in accordance with the order determined in said determining step.

43. (New)   The method according to claim 42, wherein the order determined in said determining step is a solution of a most preferable movement sequence, based on an overall movement time between the areas to be detected.

44. (New)   The method according to claim 43, wherein said determining step comprises:

a first step of generating a group including a plurality of executable movement sequences out of a group of movement sequence candidates each indicating a visiting order of the areas to be detected; and

-4-

a second step of selecting a movement sequence that accomplish a movement operation between the areas to be detected in the shortest time, out of said group generated in said first step.

45. (New)   The method according to claim 42, wherein the evolutionary computation method includes a genetic algorithm.

46. (New)   The method according to claim 42, wherein the operations-research technique includes at least one of a linear programming method, a Lin and Kernighan's approach, and a k-OPT method.

47. (New)   The method according to claim 42, wherein each of the areas to be detected has an alignment mark.

48. (New)   The method according to claim 47, wherein a plurality of shot area are provided on the substrate, each of the alignment marks in the areas to be detected is associated with one of the shot areas, and each of the shot areas has ones of the alignment marks in the areas to be detected.

49. (New)   A method of exposing a predetermined pattern onto a plurality of shot areas on a substrate, said method comprising:

detecting a plurality of alignment marks by using said mark detecting method according to claim 47;

controlling a position of the substrate, based on the detected results in said detection of alignment mark; and

sequentially transferring the predetermined pattern onto the shot areas.

-5-

50. (New)   A method of manufacturing a device, comprising sequentially transferring a device pattern onto a plurality of shot areas by using said method according to claim 49.

51. (New)   A mark detecting method of detecting a plurality of measurement marks associated with a plurality of shot areas arranged on a substrate, said method comprising the steps of:

a first step of detecting at least one of a plurality of first measurement marks provided associated with a predetermined shot area out of the shot areas; and

a second step of detecting at least one of a plurality of second measurement marks provided associated with a shot area different from the predetermined shot area, before detecting all of the first measurement marks.

52. (New)   The method according to clam 51, further comprising a third step of detecting one or amore remaining first measurement marks which are not detected in said first step, after said second step.

53. (New)   A method of exposing a predetermined pattern onto a plurality of shot areas on a substrate, said method comprising:

detecting a plurality of measurement marks by using said method according to claim 52;

controlling a relative position between each of the shot areas on the substrate and the predetermined pattern, based on the detected results in said detection of alignment mark; and

sequentially transferring the predetermined pattern onto the shot areas.

54. (New)   A method of manufacturing a device, comprising sequentially transferring a device pattern onto a plurality of shot areas by using said method according to claim 52.

55. (New)   A mark detecting apparatus which sequentially detects a plurality of areas to be detected on a substrate by using a detecting device having a predetermined detecting field, said apparatus comprising:

a determining device which determines an order for positioning each of the areas to be detected into the predetermined detecting field by using at least one of operations-research technique and an evolutionary computation method; and

a movement device which is electrically connected to the determining device and which moves the substrate so as to sequentially position each of the areas to be detected into the predetermined detecting field, based on the order determined by said determining device.

56. (New)   The apparatus according to claim 55, wherein the order determined by said determining device is a solution of a most preferable movement sequence, based on an overall movement time between said areas.

57. (New)   The apparatus according to claim 56, wherein the evolutionary computation method includes a genetic algorithm.

58. (New)   The apparatus according to claim 56, wherein the operations-research technique includes at least one of a linear programming method, an Lin and Kernighan's approach, and a k-OPT method.

59. (New)   The apparatus according to claim 56, wherein each of the areas to be detected has an alignment mark.

60. (New)   The apparatus according to claim 59, wherein a plurality of shot areas are provided on the substrate, each of the alignment marks in the areas to be detected is associated with one of the shot areas, and each of the shot areas has ones of the alignment marks in the areas to be detected.

61. (New)   An exposure apparatus that sequentially exposes a predetermined pattern onto a plurality of shot areas on a substrate, said exposure apparatus comprising said apparatus according to claim 59,

wherein said exposure apparatus detects a plurality of alignment marks by using said detecting apparatus, controls a position of the substrate, based on the detected results in the detection of alignment mark, and sequentially transfers the predetermined pattern onto the shot areas.

62. (New)   A mark detecting apparatus which detects a plurality of measurement marks associated with a plurality of shot areas arranged on a substrate, said apparatus comprising:

a detecting device that detects at least one of a plurality of first measurement marks provided associated with a predetermined shot area out of the shot areas; and

a control device, electrically connected to said detecting device, that controls said detecting device to detect at least one of a plurality of second measurement marks associated with a shot area different from the predetermined shot area, before detecting all of the first measurement marks.

-8-

63. (New)   The apparatus according to claim 62, wherein said control device controls said detecting device to detect a part of the first measurement marks, detect second measurement marks after detecting the part of the first measurement marks, and detect one or more remaining first measurement marks other than the part of the first measurement marks, after detecting the second measurement marks.

64. (New)   An exposure apparatus that exposes a predetermined pattern onto a plurality of shot areas on said substrate, said exposure apparatus comprising said detecting apparatus according to claim 63,

wherein said exposure apparatus detects a plurality of measurement marks by using said detecting apparatus, controls a relative position between each of the shot areas on the substrate and the predetermined pattern, based on detected results in said detection of measurement marks by using said detecting apparatus, and sequentially transfers the predetermined pattern onto the shot areas.--